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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/465,690	12/17/1999	PAUL H. LEAMON	4889:62	9186

7590   07/11/2002

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EXAMINER
BOYCE, ANDRE D

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 07/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

		Application No.	Applicant(s)
Office Action Summary		09/465,690	LEAMON ET AL.
		Examiner	**Art Unit**
		Andre Boyce	3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 April 2002</u> .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)	4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5)☐ Notice of Informal Patent Application (PTO-152)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6)☐ Other: .

DETAILED ACTION

Response to Amendment

1.   This Final Office Action is in response to the Applicant's amendment filed

April 23, 2002. Claims 1-18 are pending. Claims 13, 14, 17, and 18 have been

amended.

2.   The previously pending objection to the abstract is withdrawn.

The previously pending objection to the disclosure is withdrawn.

The previously pending rejections under 35 USC 112 to claims 13, 14, 17,

and 18 are withdrawn.

3.   Applicant's arguments filed April 23, 2002 have been fully considered but

they are not persuasive, and the Examiner maintains the previous rejections.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Castonguay et al, U.S. Patent No. 5,911,134 in view of Crockett et al, U.S.

Patent No. 6,044,355.

As per claim 1, Castonguay et al disclose a method for assigning a group

of agents to a plurality of available schedules (see column 17, lines 65-67),

comprising the steps of determining preferences for a plurality of factors for each

agent (see column 18, lines 9-11), and assigning an order of importance for the

plurality of factors for each employee (see column 18, lines 14-18). Castonguay

et al does not explicitly disclose determining a difference value for each factor

between a plurality of schedules and each agent's preference for that factor,

assigning the difference value for each factor to an assigned vector for each

agent wherein the factor having the highest importance is assigned to the highest

order bits of the vector and the remaining factors assigned to subsequent orders

of bits in their assigned order of importance, calculating an unassigned vector for

each schedule not assigned to the agent, and assigning the schedule having the

lowest vector to each agent. Crockett et al disclose a vector (one-dimensional

array, see column 5, lines 47-51) containing "difference" values. It would have

been obvious to one having ordinary skill in the art at the time the invention was

made to determine and assign a difference value (as seen in the Crockett et al

method) for each factor to an assigned vector within the Castonguay et al

method, wherein the factor with the highest importance is assigned to the highest

order of bits of the vector with the remaining factors assigned accordingly,

calculating an unassigned vector for each schedule not assigned to the agent, and assigning the schedule having the lowest vector. By using this vector assignment system the Castonguay et al method would be able to rapidly and effectively evaluate and assign schedules based strictly upon agent preference, just as the Castonguay et al method already implements for tour coverage (see column 18, lines 33-42).

As per claim 2, Castonguay et al does not explicitly disclose the unassigned vectors being calculated for each agent based on the assigned schedules and on schedules where factors are swapped between schedules. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include within the Castonguay et al method, calculating vectors based upon assigned schedules and factors being swapped between schedules. This vector calculation step would ensure that the schedule having the lowest vector is assigned to each agent, thereby increasing the overall accuracy of the method, in terms of satisfying the agent preference.

As per claim 3, Castonguay et al does not explicitly disclose the unassigned vectors first being calculated for the highest ranked agent, and the schedule having the lowest vector being assigned to that agent, further including determining the lowest vector for the next highest ranked agent, and repeating until each agent's schedule has been compared to every other agent's schedule. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this vector assignment and comparison

step within the Castonguay et al method, in order to ensure that the effectiveness of the vector assignment is maintained. This vector assignment would be an obvious progression for the Castonguay et al method, which already gives provisional choice to higher ranked agents (see column 19, lines 61-67 and column 20, lines 1-2).

As per claim 4, Castonguay et al disclose agents ranked according to seniority (see column 17, lines 65-67 and column 18, lines 1-3). In order to generate schedules to satisfy agent seniority, the Castonguay et al method inherently has to rank the agents.

As per claim 5, Castonguay et al disclose agents ranked according to performance (see column 16, lines 23-26). The "Results" dataset maintained by the Castonguay et al method, which contains the agent performance statistics, would inherently have the ability to rank the agents.

As per claim 6, Castonguay et al does not explicitly disclose a schedule being assigned from a higher ranked agent to a lower ranked agent only if the assignment will decrease the lower ranked agent's vector without increasing the higher ranked agent's vector. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include this schedule swapping between agents within the Castonguay et al method. This type of schedule swapping, already seen in the Castonguay et al method (see column 19, lines 11-16) would ensure that every agent is given the lowest

possible vector without compromising the higher ranked agent's vector, thereby improving the effectiveness and accuracy of the overall schedule assignment.

As per claim 7, Castonguay et al disclose the plurality of factors being selected from the group of start times, break times, lunch times, days off, end time, lunch length, split shift parameters, and hours worked (see column 18, lines 14-18).

As per claim 8, Castonguay et al disclose the plurality of schedules being preliminary assigned schedules (see column 18, lines 65-67 and column 19, lines 1-3). Once the initial tour is generated in the Castonguay et al method, the preliminary schedule is complete.

As per claim 9, Castonguay et al disclose the plurality of schedules being a pool of schedules (see column 19, lines 34-35).

Claims 10-18 are rejected based upon the rejection of claims 1-9 respectively, since they are the computer program product claims corresponding to the method claims.

Response to Arguments

6.   In the remarks the Applicant argues that the difference value mentioned in Crockett et al is a totally different concept than the difference value recited in claims 1 and 10, therefore Crockett fails to cure the deficiencies of the Castonguay et al disclosure.

        The Examiner respectfully disagrees with this assertion, and submits that

Crockett et al indeed teaches a difference value that is equivalent to the

Applicant's, and cures the deficiencies of Castonguay et al. The Crockett et al

method begins by generating a net staff and skills based arrays (steps 10 and 12

of Figure 1), either step of which may be done first (see column 6, lines 2-3).

The net staff array is **initially (emphasis)** generated using call volume and

forecasts (see column 5, line 49). Through the feedback mechanism as seen in

Figure 2, the net staff and/or skills based arrays may be **further refined to**

include agent preferences (see column 8, lines 41-47 and Figure 2, refinement

loop from ACD simulator 38 to net staffing array 30). Therefore, this refinement

loop in the Crockett et al method incorporates agent preferences into the net staff

and skills based arrays and the associated difference values.

                                    Conclusion

7.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of

time policy as set forth in 37 CFR 1.136(a).

        A shortened statutory period for reply to this final action is set to expire

THREE MONTHS from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory

period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

8.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Andre Boyce whose telephone number is

(703) 305-1867. The examiner can normally be reached on 9:30-6pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Tariq Hafiz can be reached on (703) 305-9643. The fax

phone numbers for the organization where this application or proceeding is

assigned are (703) 305-7687 for regular communications and After Final

communications, and (703) 746-7305 for informal/draft communications.

Any inquiry of a general nature or relating to the status of this application

or proceeding should be directed to the receptionist whose telephone number is

(703) 308-1113.

adb
July 2, 2002

TARIQ R. HAFIZ
SUPERVISORY PAT
TECHNOI